

TABLE 4-continued

		IC50 values for 48 h(unit; μ M)				
	cell line	Etoposide	example 5	example 6	example 7	example 8
breast	H1975	>50	—	—	—	—
	HCC827	>50	—	—	—	—
	H146	>50	—	—	—	—
	MCF-7	>50	—	—	—	—
	MDA-MB-231	>50	>50	>50	>50	>50
colon	HCF116	7.289	>50	>50	>50	>50
leukemia	HL-60	2.43	>50	>50	>50	>50
	K562	—	—	0.247	—	—
pancreas	CFPAC-1	42.02	—	—	—	—
	BxPC-3	>50	—	—	—	—
normal	WI-38	>50	>50	>50	>50	>50
	WI-26	—	—	—	—	—
	HUVEC	>50	>50	>50	>50	>50

[0059] 3) Anticancer Efficacy Against Lung Cancer

[0060] Among the lung cancer cell lines listed in Tables 3 and 4, A549 and H460 are non-small cell lung cancer cell lines, which clinically show the highest case fatality rates in Korea. The compounds prepared according to Examples 1 to 4 and Example 6 of the present invention exhibited particularly excellent cytotoxicity against the A549 and H460 cell lines, and showed 10 to 200-fold stronger anticancer efficacy, compared with the reference drug, etoposide.

[0061] On the other hand, the compounds of Examples 5, 7 and 8 had IC₅₀ values of 50 μ M or more for the A549 and H460 cell lines, indicating similar anticancer efficacy to that of the reference drug. In addition, compared with the other lung cancer cell lines, except the A549 and H460 cell lines, the compounds of Examples 1 to 3 exhibited almost similar anticancer efficacy to that of etoposide.

[0062] 4) Anticancer Efficacy Against Colorectal Cancer and Blood Cancer

[0063] The compounds of Examples 1 to 4 exhibited excellent anticancer efficacy against the colorectal cancer cell line HCT-116, and the compounds of Examples 1 to 3 exhibited excellent anticancer efficacy against the blood cancer cell line HL-60. Specifically, the IC₅₀ values of the compounds of Examples 1 to 4 are 0.011 to 1.57 μ M for the HCT-116 cell line, indicating that these compounds exhibited very excellent anticancer efficacy, which is 660-fold higher than that of the reference drug.

[0064] In addition, the IC₅₀ values of the compounds of Examples 1 to 3 are 0.004 to 0.25 μ M for the HL-60 cell line, indicating that these compounds exhibited 10 to 600-fold stronger anticancer efficacy than the reference drug. However, the compounds of Examples 4 and 6 exhibited particularly excellent effects against the blood cancer cell line K562.

[0065] 5) Anticancer Efficacy Against Breast Cancer and Pancreatic Cancer

[0066] All of the compounds of Examples 1 to 8 had IC₅₀ values of 50 μ M or more for the breast cancer cell lines, MCF-7 and MDA-MB-231 cell lines, indicating that these compounds exhibited similar anticancer efficacy to that of the reference drug. In addition, for the pancreatic cell lines, CFPAC-1 and BxCP-3 cell lines, the compounds of Examples 1 to 3 exhibited similar anticancer efficacy to that of the reference drug. For reference, the compounds of Examples 4 to 8 were not tested for toxicity against a pancreatic cancer cell line.

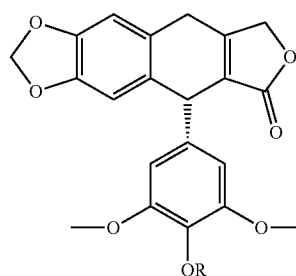
[0067] 6) Toxicity Test Against Normal Cells

[0068] In the results of the toxicity test against normal human cells, that is, WI-38, WI-26 and HUVEC cell lines, it was confirmed that all of the IC₅₀ values of the compounds of Examples 1 to 8 are 50 μ M or more. Therefore, since the compounds of Examples 1 to 8 have almost no toxicity against normal human cells, it was confirmed that the risk of side effects is very low when used as an anticancer agent.

[0069] 7) Comprehensive Evaluation

[0070] From the above-described cytotoxicity test results, it was confirmed that the compounds prepared according to Examples of the present invention have significant anticancer efficacy against, particularly, lung cancer, colorectal cancer and blood cancer, and further, when used as an anticancer agent, it was shown that the risk of side effects is very low.

1. A compound represented by Formula 1 below and a pharmaceutically acceptable salt thereof:



[Formula 1]

In Formula 1, R is a C₂ to C₁₀ alkyl group, a C₂ to C₁₀ alkyl group containing an allyl- or alkyne, a —[CH₂]_n—C₃ to C₈ cycloalkyl group, a substituted or unsubstituted —[CH₂]_n—phenyl group, a substituted or unsubstituted —[CH₂]_n—C₅ to C₆ heteroaromatic group, a —C(=O)—C₁ to C₈ alkyl group, a substituted or unsubstituted —C(=O)—[CH₂]_n—phenyl group, or a substituted or unsubstituted —C(=O)—[CH₂]_n—C₅ to C₆ heteroaromatic group, wherein n is an integer of 0 to 6.

2. The compound of claim 1, wherein the compound is selected from the group consisting of: